REMARKS

Abstract of the Invention

The Examiner has objected to the abstract of the invention because it contains a description of the prior art. Applicant has amended the abstract to remove all references to the prior art. The abstract is now believed to be in full compliance with the provisions of MPEP § 608.01(b).

Objections to Specification

The Examiner has pointed to several minor errors in the specification as set forth in paragraph 4 of the outstanding Office Action. By way of the instant amendment, the errors noted by the Examiner have been corrected. No new matter has been added.

Claim Objections

The Examiner has set forth claim objections as stated in paragraph 5 of the outstanding Office Action. Applicant has amended the specification in order to remove the basis of these rejections. In most cases, the Examiner's suggestions have been adopted. However, with regard to claim 3, lines 10, 11, 12, 13 and 15, applicant has inserted the word "an" instead of the word "the" as suggested by the Examiner. It is believed that the term "an" is more appropriate in that the term "output" was not previously introduced and thus the article "an" is customarily utilized in such circumstances.

Rejections Under § 112

The Examiner has rejected claims 2 and 4-7 under 35 U.S.C. § 112, second paragraph. The various portions of the claims deemed to be unclear are set forth in paragraphs 8-10 of the outstanding Office Action.

By way of the instant amendment, applicant has reviewed and revised all of the claims in order to remove the basis for the rejections as stated in paragraphs 8-10 of the outstanding Office Action. Further, additional amendments have been made to the claims in order to clarify same. It is submitted that all of applicant's claims fully comply with the provisions of 35 U.S.C. § 112.

Prior Art Rejections

Claim 1 stands rejected under 35 U.S.C. § 102(b) as anticipated by Sanyo (JP 05-152897) cited in applicant's previously submitted IDS.

Applicant has amended claim 1 in order to more readily distinguish applicant's invention from the applied prior art. In particular, applicant's recited gain regulation circuit comprises a first selector for selecting gain and a first multiplier. The first multiplier is recited for directly multiplying a coefficient sequence with a gain that is outputted from the first selector. No such corresponding structure is shown in Sanyo. Sanyo discloses that the Gain is utilized in multiplier 21 only after the various input signals have been individually multiplied by the various coefficients A-E via the adder 20. However, applicant's first multiplier is recited as directly multiplying the coefficient sequence and thus incorporates a structure not disclosed in Sanyo. Applicant's direct multiplication of the gain factor with the coefficient sequence may be seen, for example, in applicant's Fig. 4 wherein the multiplier 16 is utilized to directly multiply the selected gain (for example, "Gain 1") with the coefficients k1-kn.

In view of the amendments made to claim 1, it is submitted that the Sanyo reference does not anticipate applicant's invention since if fails to disclose each and every limitation recited therein.

A reference may not be applied under § 102 unless the reference anticipates each and every limitation recited in the claim. As indicated above, amended claim 1 clearly differentiates from the Sanyo teaching in that Sanyo does not disclose that the first multiplier directly multiplies the coefficient sequence with the gain signal. Thus, the applicant of Sanyo as an anticipatory reference under 35 U.S.C. § 102 must be withdrawn.

Claim 1 stands rejected under 35 U.S.C. § 103 as unpatentable over applicant's admitted prior art as shown in applicant's Fig. 1. The Examiner states it would be obvious to one of ordinary skill in the art to integrate/combine components 51-52 into one device in order to reduce the circuit size by using a single IC component to implement the circuit and designating the single IC component as a "digital filter." Further, claims 2-3 stand rejected

under 35 U.S.C. § 103 as unpatentable over applicant's admitted prior art in view of Wittig (6,606,641).

The Examiner's rejections are respectfully traversed.

Applicant's invention is more than simply a matter of re-labeling Fig. 1 so that the digital filter 53 is expanded to a larger block so that it includes the selector 51 and multiplier 52. Indeed, drawing a larger block to include the selector 51, multiplier 52 and originally drawn digital filter 53 and calling this larger block a digital filter does not result in applicant's invention.

Amended claim 1 recites a variable-gain digital filter having a construction in which a gain regulation circuit is incorporated inside the digital filter. The gain regulation circuit is recited as comprising a first selector for selecting gain; and a first multiplier for directly multiplying a coefficient sequence with a gain signal that is outputted from the first selector.

Drawing a larger box in applicant's admitted prior art of Fig. 1 will not result in claim 1 as recited. In particular, according to the recitations of claim 1, the first multiplier must directly multiply a first sequence with a gain signal. The gain signal of applicant's selector shown in Fig. 1 is not multiplied with the coefficient sequence but rather with the input data X. Amendments made to claim 1 (primarily to overcome the § 112 rejections) also will automatically clarify the recitation of claim 1 so that it is clear that the present rejection of amended claim 1 based on applicant's admitted prior art is inappropriate and must be withdrawn.

The rejection of applicant's dependent claim 2 is likewise inappropriate in view of the amendment discussed above in connection with amended claim 1. Thus, it is submitted that applicant's dependent claim 2 is patentable over applicant's admitted prior art taken singularly or in combination with Wittig.

Applicant's independent claim 3 recites a first shift register, first, second and third selectors, first and second multipliers and an integrator. In the rejection of claim 3, the Examiner appears to be applying applicant's admitted prior art as shown in Fig. 2 in

combination with Wittig. However, neither applicant's Fig. 2 nor Wittig discloses a selector for selecting the gain and, furthermore, there is no motivation as to why one would modify the structure of applicant's Fig. 2 or otherwise modify the structure of Wittig so that the resulting structure would appear as applicant's invention as illustrated in Fig. 4. Indeed, applicant can find nothing in Wittig which would motivate one to revise the circuitry disclosed therein in a manner to be compatible with applicant's prior art Fig. 2 and to again modify the resulting combination somehow to arrive at applicant's Fig. 4. As such, it is submitted that the Patent and Trademark Office has not made out a *prima facie* case of obviousness under the provisions of 35 U.S.C. § 103.

In view of the amendments made hereto and the remarks set forth above, it is submitted that the application is now in condition for allowance and an early indication of same is earnestly solicited.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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